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basic imagery interpretation report

Dodonovo Missiles and Space Components Plant (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES

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INSTALLATION OR ACTIVITY NAME					COUNTRY
Dodonovo Missiles and Space Components Plant					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	56-15-40N 093-31-35E				
MAP REFERENCE					
SAC. USATC, Series 200, Sheet 0159-23, scale 1:200,000					
LATEST IMAGERY USED			NEGATION DATE (If required)		
			NA		

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ABSTRACT

1. (S/D) This report describes the recent developments at Dodonovo Missiles and Space Components Plant, USSR. The plant, first identified in 1960, is probably involved in the design, development, and production of unmanned space payloads. This report includes an analysis of payload shipping containers seen at Dodonovo and examines related construction developments. It concludes that increased payload production, plant expansion, and a broadening of observed responsibilities are indicators that Dodonovo Missiles and Space Components Plant is becoming a more influential force in the Soviet unmanned space effort. This report updates NPIC report [] and contains a map, two photographs, three tables, and drawings of containers observed at the plant. The information cutoff date for this report is []

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INTRODUCTION

2. (S/D) Dodonovo Missiles and Space Components Plant (MSCP) is at the north end of a residential area, 4 nautical miles (nm) east of Dodonovo and 18 nm northeast of Krasnoyarsk (Figure 1). Immediately to the east is a materials handling and receiving area and to the north, a general support area that includes a power substation, rail transshipment yard and warehouses. Also nearby are Dodonovo Multifunctional Complex ([])

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3. (S/D) Dodonovo MSCP is composed of seven main structures, including checkout/assembly, fabrication, probable test, administrative, and general support buildings (Figure 2). The plant is both rail and road served. Rail access is gained at two locations through a triple-secured fence. An eastern rail spur serves the plant's checkout building before extending directly into Dodonovo's largest fabrication/assembly building. A second rail access point, in the plant's northeast corner, services smaller support and fabrication buildings. A single road-controlled access point is at the southern plant boundary; all major plant buildings are served by interconnected hard-surfaced roads.

BASIC DESCRIPTION

4. (S/D) Shipping canisters, first observed at Dodonovo in 1970, were believed to contain reentry vehicles associated with strategic missile systems.¹ The identification of similar canisters at other selected production and testing facilities of known space systems now indicates that Dodonovo MSCP is involved in development of unmanned space payloads.

5. (S/D) Significant new construction took place between 1974 and 1978. Expansion of both the administration and production work areas is probably related to greater payload diversity and production. A large, new administration/assembly addition to the checkout building may be involved in the production of new payload systems. A new probable test building, constructed in 1974, adds to Reshetnev's quality control functions. Dodonovo's high-level communications capabilities have been enhanced by the construction of a probable parabolic antenna atop a 42-meter lattice tower. Finally, construction of a radome in 1980 also indicates that the Reshetnev organization at Dodonovo MSCP may be acquiring new payload monitoring functions.

6. (S/D) Six basic types of shipping containers (A through F, Figure 3) have been observed at Dodonovo MSCP,³ and two new payload canisters (types G and H) have been newly observed. While the sizes of the type G and H canisters are compatible with naval support satellite (navsat) and geodetic satellite (geosat) systems, they are probably used with various similar-sized payloads.

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Plant Construction

7. (S/D) Extensive plant construction from 1974 through 1978 resulted in 20,192 square meters of additional floorspace, representing a 32 percent increase in total work area (Figure 2 and Table I). Fifty percent of the new construction is designated for administrative purposes, and 44 percent, or 8,937 square meters, is allocated for production.

8. (S/D) The high ratio of administration to production floorspace continues a trend reported earlier and reflects the probable research-and-development function performed at Dodonovo MSCP.¹ Additional information suggests that the Reshetnev organization is at Dodonovo MSCP and as an integrating contractor performs design, prototype development, and series production functions. Major plant expansion indicates that Reshetnev is capable of expanding each of these operations.

9. (S/D) Major plant construction includes a new administration/assembly addition to the checkout building and represents nearly 20 percent of the total new floorspace. This largest production addition, designed to increase plant productivity, may also be involved in production of new space payloads.

10. (S/D) Table 2 lists the numbers of containers observed at Dodonovo MSCP between 1977 and mid-1980. A rough comparison can be made between the numbers/types of payload canisters observed before and after construction was completed. While this table does not represent a true random sample, evidence suggests that following construction, payload production accelerated. Completion of the administration/assembly addition apparently contributed to an increase in the production of payloads found in G/H canisters.

11. (S/D) Construction of the payload preparation/checkout addition at the checkout building's north entrance indicates a possible change in intended product size. The checkout building's northern addition obstructs, by approximately 50 percent, the original entrance (Figure 2). The checkout building's

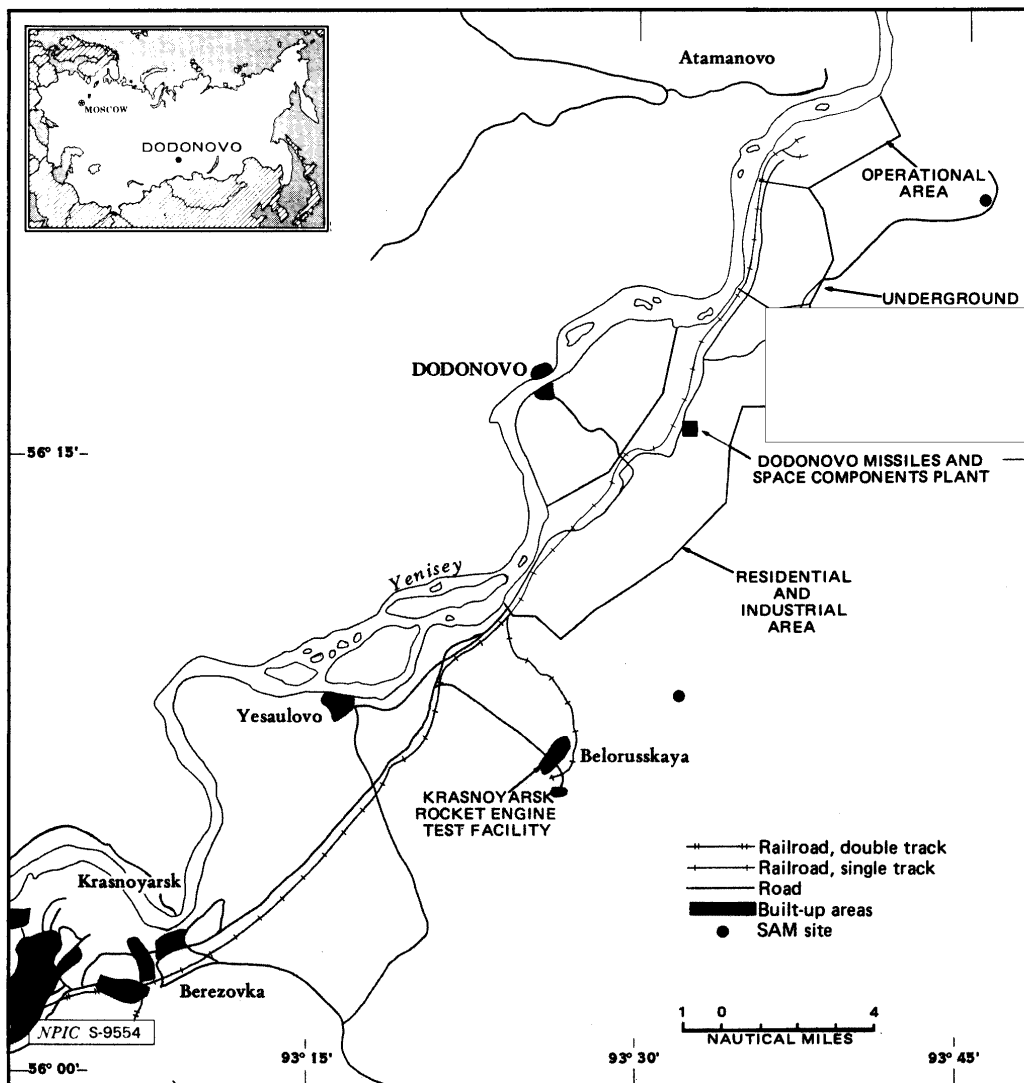


FIGURE 1. LOCATION OF DODONOVO MISSILES AND SPACE COMPONENTS PLANT, USSR

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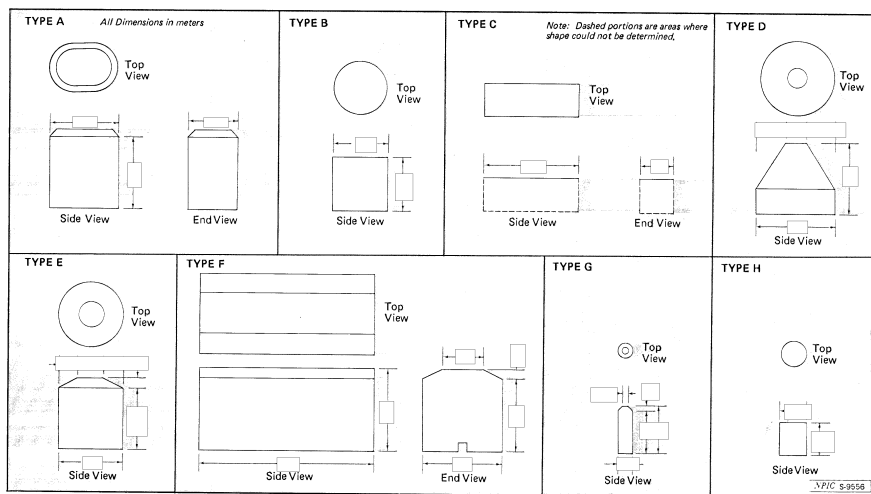


FIGURE 3. CONTAINERS OBSERVED AT DODONOVO MISSILES AND SPACE COMPONENTS PLANT

Table 2.
Types of Containers Observed at Dodonovo Missiles and Space Components Plant

	A	B	C	D	E	F	G	H	Total
1	2	2	4	1	3				
2	2	2	5	1	2				
3	1	1	7	1					
4	1	1	3	1					
5	1	1	8						
6	1	1	5	1	1				9
7	1	2	1	3					
8	1	1	6						
9	1	1	4	1					
10	1	1	10						
11	1	1	8						
12	0	1	1	3	1	1			9
13	1	1	10						
14	1	1	3	5					17
15	1	1	7	6					18
16	1	1	1	7	1	8			19
17	2	1	12	4	25				
18	1	2	17	3	24				
19	1	4	10	3	24				
20	2	1	2	13	3	24			45

Table 3.
Secondary Locations and Possible Systems Associations of Dodonovo MSCP Containers

Container Type	A	B	C	D	E	F	G	H
Location Observed:	Kaliningrad 68 Kuybyshev 1	Kaliningrad 68 Kuybyshev 1 Tyuratam B1	Not observed	Tyuratam B1	Kaliningrad 68 Kharkov 301 Kuybyshev 1 Tyuratam B1	Kuybyshev 1 Tyuratam B1	Tyuratam B1	Kuybyshev 1
Possible Systems Association:	SPCS (center section)	Elint (3rd gen)	Elint (3rd gen)	SPCS (main & center sections)	Geosat (Cosmos 409)	Navsat (1st gen upper section)	Geosat (Cosmos 708 lower section)	Geosat (Cosmos 708 upper section)
		Geosat (Cosmos 409)	Geosat (Cosmos 708)	Geosat (Cosmos 708)	Geosat (Cosmos 708)	Navsat (2nd gen)	Geosat (Cosmos 708 upper section)	
		Geosat (Cosmos 708)	SPCS (center section)	Radstat SPCS (main & center sections)	Radstat SPCS (main & center sections)			

15. (S/D) During the reporting period, storage space near payload handling and testing areas was increased by 1,000 square meters. This area, probably used to store payloads and canisters, may satisfy expanding production requirements.

Payload Production

16. (S/D) Payload canisters are usually observed at either the north end of the fabrication/assembly building (Figure 4) or just north of the recently completed payload preparation/checkout area. Since payloads contain sensitive systems, most canisters left outdoors are probably empty; their payloads may be in the assembly/testing process. After assembly, completed systems are transported via the rail line extending from the fabrication building's eastern egress. After payloads are sent to the launch sites, empty canisters may be returned to Dodonovo MSCP for reuse.

17. (S/D) Most canisters found at Dodonovo have beveled tops for handling purposes. The payloads contained within may have any configuration, limited only by canister size.

18. [] Each canister observed at Dodonovo is believed capable of handling a space launch vehicle (SLV) payload or payload subsystem.

19. (S/D) It is apparent that except for minor fluctuations, the level of production for type A, B, C, D, E, and F containers remained relatively constant (Table 2), while numbers of new canister types G and H increased during 1979. This may indicate that payload systems contained in type G and H canisters may now be in series production and launched with greater frequency. Navsat and geosat payloads are compatible in size with type G and H canisters. The record of USSR space launches of navsat and geosat, however, does not mirror the increased production of payloads compatible with G and H canisters at

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Dodonovo. Three navsats were launched in 1978 and four in 1979, while observed canisters compatible with navsats/geosats increased from three to 38 during the same period.⁴ Additional payloads compatible in size with G/H canisters may be assembled, tested, and stored for launch at a later date.

20. (S/D) Table 3 provides possible canister associations with payloads believed to be present at Dodonovo MSCP and indicates secondary locations where Dodonovo containers have been observed.

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REFERENCES

IMAGERY

(S/D) All applicable satellite imagery acquired from [REDACTED] through the information cutoff date of [REDACTED] was used in the preparation of this report.

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MAPS OR CHARTS

SAC. US Air Target Chart, Series 200, Sheet 0159-23, scale 1:200,000 (UNCLASSIFIED)

DOCUMENTS

1. NPIC. [REDACTED] RCA-09/0029/73, *Dodonovo Missiles and Space Components Plant*, Jan 73 (TOP SECRET R) 25X1
2. NFAC. [REDACTED] *Soviet Spacecraft Development and Production Authority Near Krasnoyarsk* (TS [REDACTED] 31 Dec 78 (TOP SECRET [REDACTED]) 25X1
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3. NFAC. [REDACTED] IS 78-10201K, *Analysis of Dodonovo Missiles And Space Components Plant, USSR*, Aug 78 (TOP SECRET R) 25X1
4. DIA. DST-1400H-252-78, *Space Systems Handbook—Eurasian Communist Countries*, Aug 79 (SECRET)

*No NOCONTRACT or ORCON material extracted.

REQUIREMENT

COMIREX J02
Project 200016DJ

(S) Comments and queries regarding this report are welcome. They may be directed to [REDACTED] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [REDACTED]

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